



# News Release

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U.S. Geological Survey

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## Evaluating Precipitation Gages for the National Atmospheric Deposition Program

A report recently released by the U.S. Geological Survey (USGS), Department of the Interior, summarizes the results from a precipitation gage evaluation study, which was done on behalf of the National Atmospheric Deposition Program (NADP). The NADP, a cooperative program supported by Federal, State, and local agencies, and Indian Tribes, was established in 1977 to study atmospheric deposition and its impact on the environment; the USGS is the lead Federal agency in the NADP. Atmospheric deposition is the process whereby airborne particles and gases are deposited on the earth's surface.

In 1999, a three-phase study was begun to evaluate several precipitation gages to replace the gage being used by the program, the Belfort Universal Precipitation Gage 5-780. Phase I consisted of indoor bench testing with known amounts of simulated precipitation. Phase II consisted of real precipitation collection at a single outdoor test site near Bay St. Louis, Mississippi for a period of 26 weeks. Phase III of the study, which is discussed in the recently released report, evaluated the performance of the OTT PLUVIO Precipitation Gage and the Belfort Universal Precipitation Gage 5-780. The evaluation consisted of testing the gages for accuracy and comparability of data collection, ease of operation, and reliability.

The precipitation gages for phase III were installed at six National Trends Network (NTN) sites across the country for a data collection period of 18 months. The NTN is one of the wet deposition networks of the NADP. Wet deposition is the part of atmospheric deposition that is contained in precipitation. The six NTN sites chosen were: Sand Mountain, Alabama; Bondville, Illinois; Marcell, Minnesota; Smith Valley, Nevada; Penn State, Pennsylvania; and Brooklyn Lake, Wyoming. The sites have varied climate conditions, equipment configurations, topographic settings, and power availability. The results of this study will help determine if the OTT PLUVIO Precipitation Gage is a suitable replacement for the Belfort Universal Precipitation Gage 5-780 for future use in NADP studies of atmospheric deposition.

(MORE)

The 25-page report, titled “Evaluation of OTT PLUVIO Precipitation Gage versus Belfort Universal Precipitation Gage 5-780 for the National Atmospheric Deposition Program,” by Mary L. Tumbusch, is U.S. Geological Survey Water-Resources Investigations Report 03-4167. It is available for inspection at URL <<http://pubs.water.usgs.gov/wri034167>>.

Additional information about this and other USGS studies of water resources in Nevada may be obtained by e-mail to <[GS-W-NVpublic-info@usgs.gov](mailto:GS-W-NVpublic-info@usgs.gov)> or by visiting the USGS home page at <<http://nevada.usgs.gov>>.

As the Nation's largest water, earth, and biological sciences and civilian mapping agency, the USGS works in cooperation with more than 2,000 organizations across the country to provide reliable, impartial scientific information to resource managers, planners, and other customers. This information is gathered in every State by USGS scientists to minimize the loss of life and property from natural disasters, to contribute to the conservation and the sound economic and physical development of the Nation's natural resources, and to enhance the quality of life by monitoring water, biological, energy, and mineral resources.

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